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Pole to 45° south, and in magnitude from naked-eye stars to stars of the 12th magnitude. The number of observations for a star varies from 1 for some in the miscellaneous list to 855 in Right Ascension, and 2187 in Declination for *Polaris*.

The title-page rightfully bears the name of Professor John R. Eastman, as 17,334 of the observations were made by him personally, and 39,867 others under his immediate direction; while the reduction, the discussion of the results, and the arrangement of the volume were carried out according to his plans. R. G. A.

THREE NEW SPECTROSCOPIC BINARY STARS.

While engaged in determining the velocities of stars in the line of sight with the Mills spectrograph, we have found three stars whose velocities are variable. The variation in each case is due to the fact that the star is describing an orbit of comparatively short period.

$$\eta Pegasi. (a = 22^h 38^m, \delta = + 29^o 42'.)$$

My first measures of the velocity of this star from three spectrum plates gave +7.1, +5.1, and -2.2 kilometers per second, respectively. Inasmuch as an extreme range of four kilometers for a star of constant velocity is never expected, I felt sure that the velocity of η Pegasi varied. Additional plates were secured and another earlier plate was reduced. All confirm the variation. The velocities obtained up to date are as follows:—

```
1896. Aug. 27.
                   + 7<sup>km</sup>. I
      Sept. 23.
                   + 5 .1
      July 8.
                   - 6 .4
1897.
                   - 2 .2
      Sept. 28.
1898. Aug. 29.
                  + 16.5
       Aug. 30.
                   + 15.6
      Sept. 4.
                   + 16.5
      Sept. 15.
                  + 15.7
       Oct. 18.
                   + 11 .0
       Oct. 24.
                   + 11.5
       Oct. 26.
                   + 10 .8
      Nov. 28.
                   + 6.1
                   — и .6
1899.
      Jan. 23.
```

By plotting these data, it will be seen that the period of the star must be about two and a quarter years. Several years must elapse before a definitive determination of the orbit can be made.

o Leonis.
$$(a = 9^h 36^m, \delta = + 10^\circ 21'.)$$

About twenty spectrum plates of this star have been secured. They show that the velocity varies between about +82 and -30 kilometers per second, completing one cycle in a period of fourteen and a half days. There is some evidence that the spectrum consists of two or more spectra superposed.

$$\chi$$
 Draconis. (a = 18^h 23^m, $\delta = +72^{\circ}$ 42'.)

Fourteen plates of the spectrum of this star have been obtained and reduced, with the following results for the velocity:—

1898.	July 25.	$+ 45^{km}.6$
	Sept. 5.	+ 46 .0
	Sept. 19.	+ 42 .6
	Oct. 24.	$+$ 14 \pm
	Oct. 25.	$+$ 16 \pm
	Oct. 26.	+ 14.5
	Nov. 1.	+ 11 .9
	Nov. 5.	+ 11 .3
	Nov. 12.	+ 10 .7
	Nov. 18.	+ 10 .6
	Dec. 3.	$+$ 15 \pm
	Dec. 7.	+ 18 .3
	Dec. 16.	+ 21 .0
	Dec. 17.	+ 20 .0

The observations seem to indicate a period of about six months.

W. W. CAMPBELL.

THE COPLEY MEDAL AWARDED TO SIR WILLIAM HUGGINS.

At the recent anniversary meeting of the Royal Society of London, the President announced that the Copley Medal had been awarded to Sir William Huggins, for his great achievements in the application of spectrum analysis to the heavenly bodies.

TELESCOPES NEARING COMPLETION.

"The Sheepshanks Telescope Committee report that the erection of the polar-reflecting photographic telescope at the [Cambridge, England,] observatory, with its building and dome, is nearly complete. Dr. COMMON has provided the mirror, and the object-glass is one of COOKE's triple lenses. The tube and